REMARKS

Claims 1-23, 55-72 and 88-100 arepresented, of which Claims 1, 9, 16, 23, 55, 61, 67, 72, 88, 91, 94, and 97 are independent. Claims 24-54 and 73-87 are withdrawn from consideration as being directed to an unelected invention. To reduce claim fees, the withdrawn Claims 24-54 and 73-87 are canceled by the present amendment. Claims 1-23, 55-72 and 88-97 have been rejected under 35 U.S.C. §§102, 103 and/or 112. These rejections are respectfully traversed. For the reasons discussed below, all pending claims are in condition for allowance.

Claim Amendments

Claims 1, 6, 7, 9, 13, 14, 16, 17, 20, 21, 23, 55, 61, 66, 67, 72, 88, 91, 94, and 97 are amended by the present amendment to claim the invention more distinctly. In particular, independent Claims 1, 9, 16 and 23 are amended to specify that an object-oriented programming environment for developing software is created, and that an object in the object-oriented programming language is represented using one or more spreadsheets. Support for this amendment can be found throughout the application, at least at paragraphs 99-101 and FIG. 16. Independent Claims 55, 61, 67, 72, 88, 91, 94, and 97 are amended to clarify that a computer software programming environment is created using the spreadsheet. Claims 1, 6, 7, 9, 13, 14, 16, 17, 20, 21, 23, 55, 61, 66, 67, 72, 88, 91, 94, and 97 are amended to ensure consistency throughout the claims and to correct any typographical errors. Acceptance is respectfully requested.

Restriction Requirement

The Examiner issued a requirement for restriction for the present application. The Examiner restricted the claims into Group I (Claims 1-23, 55-72, 88-97) and Group II (Claims 25-54 and 73-87). As indicated in the telephone conversation with Applicant's representative, responsive to the restriction requirement, claims of Group I (Claims 1-23, 55-72, 88-97) are elected for prosecution. Applicant reserves the right to file a continuing application or take such other appropriate action as deemed necessary to protect the non-elected inventions. Applicant does not hereby abandon or waive any rights in the non-elected inventions.

35 U.S.C. § 112 Rejection

Claim 66 has been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for insufficient antecedent basis. In response, Claim 66 is amended by the present amendment to address the rejection and to provide antecedent basis for "the scroll bars". Applicant appreciates the Examiner's careful attention to the claims. Reconsideration of the rejection is respectfully requested.

35 U.S.C. § 102(b) Rejections

Claims 1-4, 7, 9-11, 14, 16-18, 21, and 23 have been rejected under 35 U.S.C. §102(b) as being unpatentable over US-2002/0078086 to Alden, et al. This rejection is respectfully traversed.

For explanation, but without limitation to the claims, certain embodiments related to independent Claims 1, 9, 16, and 23 will be described. An object-oriented programming environment is created using electronic spreadsheets. Objects in an object-oriented programming language, are represented by one or more spreadsheets. Objects communicate using methods, which are defined in the cells of the spreadsheets. The content in a cell of the spreadsheet is connected with a window. The content in the cell of the spreadsheet includes instructions for the object. The properties of the window are determined based on the content in the cell of the spreadsheet.

By way of contrast, Alden provides a functional visualization of a spreadsheet. Alden teaches to correlate the spreadsheet cells with entities in an influence diagram, and then automatically update the entities in the influence diagram in response to changes made to the spreadsheet. In particular, Alden teaches to detect changes in the visual representation and to automatically change the spreadsheet in response to the detected changes.

Alden, however, does not relate to the inventive approach for creating an object-oriented programming environment for developing computer software, as set forth in base Claim 1 and similarly set forth in base Claims 9, 16, and 23. Specifically, Alden discusses creating a visual representation, i.e., an influence diagram that is correlated to the spreadsheet. An influence diagram is not an object-oriented programming environment. Alden does not discuss anything

about creating a software programming environment using the spreadsheet. Moreover, Alden does not relate to object-oriented programming.

Furthermore, the present invention couples content in at least one cell in the spreadsheet to a window, where the content in the cell includes instructions for the object, and Alden does not discuss this limitation, as set forth in base Claim 1 and similarly set forth in base Claims 9, 16, and 23. Specifically, Alden does not discuss objects in the context of objects that are programmed in an object-oriented programming language. Alden does not include instructions for an object in the cells of a spreadsheet, as set forth in base Claim 1 and similarly set forth in base Claims 9, 16, and 23.

Dependent Claims 2-4 and 7 depend from base Claim 1; dependent Claims 8-11 and 14 depend from base Claim 9; dependent Claims 17, 18, and 21 depend from base Claim 16. For the reasons discussed above, dependent Claims 2-4, 7, 8-11, 14, 17, 18, and 23 are patentable over Alden.

As such, it is respectfully requested that §102(b) the rejection of Claims 1-4, 7, 9-11, 14, 16-18, 21, and 23 based on Alden be reconsidered and withdrawn.

Claims 55-57, 59, 61-63, 65, 67-69, 72, and 88-97 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Microsoft, Excel 2000 Screenshots, 12/31/99, pp. 15 (Hereafter Excel 2000). This rejection is respectfully traversed.

For explanation, but without limitation to the claims, certain embodiments will be described. Independent Claims 55, 61, 67, 72, generally relate to an approach to providing text editor functionality in an electronic spreadsheet. A software programming environment is implemented using an electronic spreadsheet. Software code is programmed using the cells of the electronic spreadsheet. A code column is defined in the spreadsheet. In response to a request to enter in a newline of software code for the code column, a new cell in the code column is inserted.

By way of contrast, Excel 2000 provides screenshots of a spreadsheet application. The spreadsheet includes cells in which text can be inserted and typed. Formulas can be written in that causes computations to be made in other cells.

Excel 2000 does not provide a software programming environment that defines a code column as set forth in base Claim 55, and similarly set forth in base Claims 61, 67, and 72. Thus, Excel 2000 does not disclose the limitations set forth in base Claims 55, 61, 67, and 72.

Dependent Claims 56, 57, 59 depend from base Claim 55; dependent Claims 62, 63, 65 depend from base Claim 61; dependent Claims 68, 69 and 72 depend from base Claim 67. Thus, dependent Claims 56, 57, 59, 61-63, 65, 68, 69 and 72 include the patentable limitations of their respective base claims (namely, a software programming environment that defines a code column and programming computer software code from the spreadsheet and the code column) and, therefore, dependent Claims 56, 57, 59, 61-63, 65, 68, 69 and 72 are patentable over Excel 2000.

Amended independent Claims 88, 91, 94, and 97 generally relate to an approach to programming with an electronic spreadsheet. A computer software programming environment is implemented using a spreadsheet. Cells in a spreadsheet are defined such that they are associated with an iterative process that repeats for one or more cycles. The iterative process repeats the same action over and over until a condition no longer applies. At each cycle, it is determined whether to modify content in the cells associated with the iterative process. The modified content causes changes to the computer software being designed using the spreadsheet.

Excel 2000 is a spreadsheet application that provides cells that are organized in rows and columns. Excel 2000 does not relate, however, to a computer software programming environment as set forth in the claimed invention, which enables an iterative process to be defined in the cells and to modify cell content that causes changes to the computer software being designed using the spreadsheet, as set forth in amended Claims 88, 91, 94, and 97. As such, Excel 2000 does not discuss the requirements of the claimed invention.

Dependent Claims 89-90 depend from base Claim 88; dependent Claims 92-93 depend from base Claim 91; dependent Claims 95-96 depend from base Claim 94 and thus, include the same patentable distinctions over Excel 2000. Therefore, for reasons similar to those set forth above, dependent Claims 89, 90, 92, 93, 95, and 96 are not disclosed or suggested by Excel 2000.

For the reasons discussed above, it is respectfully requested that the §102(b) rejection to Claims 55-57, 59, 61-63, 65, 67-69, 72, and 88-87 based on Excel 2000 be reconsidered and withdrawn.

35 U.S.C. § 103 Rejections

Claims 5-6, 8, 12-13, 15, 19-20, and 22 have been rejected under 35 U.S.C. §103(a) as being unpatentable over US-2002/0078086 to Alden, et al. in view of U.S. Patent No. 6,243,721 to Duane, et al. This rejection is respectfully traversed.

Dependent Claims 5-6 and 8 depend from base Claim 1; dependent Claims 12-13 and 15 depend from base Claim 9; dependent Claims 19-20 depend from base Claim 16. Thus, for the reasons discussed above, dependent Claims 5-6, 8, 12-13, 15, 19-20, and 22 include the inventive features of the respective base claims, namely, creating an object-oriented programming environment using a spreadsheet and representing an object in an object-oriented programming language using one or more spreadsheets.

Dependent Claim 5 relates to determining that a drag and drop event type has occurred and that the content in the cell of the spreadsheet has been dragged from the cell to the window, and subsequently dropped onto the window. Dependent Claims 12 and 19 parallel dependent Claim 5.

Dependent Claim 6 specifies that the properties of the window are determined based on the content of the cell, including any desired behavior of the object, or any desired appearance of the window to depict the object. Dependent Claims 13 and 20 parallel dependent Claim 6.

Dependent Claim 8 specifies that attributes associated with one of the cells in the spreadsheet can include any input field, check box, radio button, menu object, popup menu, label, button, combo box, or list box. Dependent Claims 15 and 20 parallel dependent Claim 8.

Duane relates to a process for creating and customizing computer forms. Duane discusses that a control item is dragged to a drop-point of a computer form. Then X and Y coordinates are determined relative to the drop point to enable certain processes, such as placing, aligning, sizing and attached labels to the control item.

Similar to Alden, Duane does not relate to the inventive approach for creating an object oriented programming environment. Further, neither Alden nor Duane, taken alone or in

combination discuss an object-oriented programming environment that enables programming by drag and drop events as set forth in dependent Claims 5, 6, 12, 13, 18 and 19. Neither Alden nor Duane, taken alone or in combination discuss an object-oriented programming that allows features for the software program being designed, such as input fields, check boxes, radio buttons, menu objects, popup menus, labels, buttons, combo boxes or list boxes to be specified using cells in a spreadsheet. Thus, neither Alden nor Duane, taken alone or in combination, disclose or suggest dependent Claims 5-6, 8, 12-13, 15, 19-20, and 22. It is respectfully requested that the §103(a) rejection of dependent Claims 5-6, 8, 12-13, 15, 19-20, and 22 be reconsidered and withdrawn.

Claims 58, 64 and 70 have bee rejected under 35 U.S.C. § 103(c) in view of Excel 2000. Claim 58 depends from base Claim 55; Claim 64 depends from base Claim 61; and Claim 70 depends from base Claim 67. The foregoing arguments of these base claims over Excel 2000 apply here to the dependent claims. For the same reasons as above, reconsideration of the rejection of Claims 58, 64 and 70 is respectfully requested.

Claims 60, 66, and 71 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Excel 2000 in view of Stead (U.S. 6,690,401). This rejection is respectfully traversed.

Dependent Claim 60 depends from base Claim 55; dependent Claim 66 depends from base Claim 61; dependent Claim 71 depends from base Claim 67 and, therefore, dependent Claims 60, 66, and 71 include the inventive limitations set forth in their respective base claims, namely, a software programming environment that uses a spreadsheet to define a code column for programming the software. In addition, dependent Claims 60, 66, and 71 further require that the code column have its own scroll bars, which are independent from the scroll bars of the spreadsheet.

Stead discusses methods to scroll a plurality of data. Like Excel 2000, Stead does not relate to a software programming environment that uses a spreadsheet to define a code column for programming software. Similar to Excel 2000, Stead does not even relate to a code column. Thus, neither Stead nor Excel 2000, discuss the requirements of the claimed invention, namely, a software programming environment that uses a spreadsheet to define a code column for programming software, where the code column has scroll bars independent of the scroll bars of

the spreadsheet. Therefore, it is respectfully requested that the §103(a) rejection of dependent Claims 60, 66, and 71 be reconsidered and withdrawn.

New Claims

New Claims 98-100 are added to the application. New Claim 98 depends from base Claim 1; new Claim 99 depends from base Claim 9; New Claim 100 depends from base Claim 16. New Claims 98-100 include the limitations of their respective base claims, namely, that an object-oriented programming environment is created using the spreadsheet, and the new claims further specify that an event is programmed in one of the cells of the spreadsheet and the event includes an event type, an event handler, and an event target. Support for this amendment can be found throughout the application, at least at specification paragraph 121 as originally filed. No new matter is introduced. Acceptance is respectfully requested.
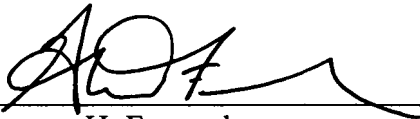
None of the cited references discuss programming an event in cells in the spreadsheet, where the spreadsheet creates a object-oriented programming environment as set forth in new Claims 98-100, respectively. Thus, it is believed that new Claims 98-100 are in condition for allowance.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

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